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AGRICULTURAL BULLETIN

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Gordon R. Groves, Director.

THE END OF ANOTHER VOLUME

With this number of the bulletin another volume is brought to its closes. As in previous years an index of the articles published is given on the last page, which it is hoped will be of value in helping the readers to refer to articles of special interest.

A perusal of this index gives an idea of the type and variety of topics discussed throughout the year. These articles have been contributed by various members of the staff, and through this medium they are able to bring to the attention of the public the work and study in which they are personally engaged. We believe that the publication of this bulletin is an extremely important function of this Department, for it not only serves its purpose by giving the public information on the Department, but it serves as a guide to cultural practices.

When this bulletin was revived in February, 1955, after a lapse of nearly ten years, the monthly circulation commenced at 300 copies per month. By the end of that year the circulation had risen to 380, and now at the end of 1961, the monthly circulation is 750 copies per month. We therefore feel we are fully justified in continuing to produce this monthly publication.

In the coming year, it is our hope to be able to include articles of special interest on fishing. This, we feel, will further enhance the value of the bulletin and will help to increase its circulation.

It is not possible at this time to review the work of the year, because this is an appropriate subject for the Annual Report, except to say that although many things have been accomplished throughout 1961, we are conscious of much work which needs our careful and immediate attention. The controversial subject of land conservation is one which must receive in the new year very careful attention, of not only the Legislature and Government Departments, but of the whole community. It is well, therefore, during the coming festive season to think of the source of supply of the food which fills our table, and also to give thought to the source of Bermuda's wealth. The preservation

of arable land and the open spaces, are in our belief essential for the future prosperity of Bermuda.

May we now take this opportunity to wish all our readers a very Happy Christmas and a bright and prosperous New Year.

G. R. G.

ON THE FARMS

There should be a good supply of local produce available for Christmas. The rains in November kept crops growing very well, and provided that we get no heavy winds during the early part of December consumers can expect to see a wide variety of locally grown fresh vegetables in the markets by the middle of the month.

The cole crops have done very well this fall. Cabbage and broccoli have already been on the market in good quantity. Cauliflower is only now coming in, but should be plentiful by Christmas. Carrots have been somewhat scarce up until now, but will soon be available in quantity. Locally grown beets will be in short supply due to the fairly limited acreage planted this fall.

The fall potato crop looks very well and with a little luck there should be some new potatoes (grown from Bermuda seed) in the stores by the middle of December. The foreign seed was planted too late to crop before Christmas, but there should be a continuous supply of locally grown potatoes from the January 1st onward. The cassava growers have been busy digging and grinding the roots of this woody plant so that Bermudians can have their national dish — made with the real product — for Christmas. Grinding cassava is hard work even with the mechanical grinders (mostly home-made) which are now used by most growers.

A substantial number of strawberry plants were imported and planted during November. The variety, Florida 90 seems to be the favourite nowadays. It produces a large firm berry and it is so much easier to fill a box with big berries than with little ones — so the farmers will tell you in any case. An experiment is being run at the Botanical Garden in which strawberries are being grown on black plastic. The plastic is laid over the bed of well prepared soil and is held down by moulding soil along the edges of the material. Strawberry plants are then set in the bed directly through a small T-shaped slot which is made in the plastic. The value of the plastic lies in the fact that it prevents weed growth, and also will prevent the berries from coming in contact with the soil. Losses from rot and insect and weed damage are expected to be much lower when this plastic is used.

I. W. HUGHES.

VERTICILLIUM WILT OF AVOCADO

In recent months Avocado growers have brought to the attention of the Department a die-back of twigs and branches of Avocado trees. This condition has been noted in the past few years on isolated trees. The symptoms of the disease are identical with the disease known as Verticillium wilt of Avocadoes in California. The casual agent of the disease in California is a

fungus called **Verticillium alboatrum.** It has not been recorded in Bermuda before but it is most likely that it occurs here as it is a fairly common disease of many plants throughout the world particularly tomatoes.

Verticillium wilt of avocado first appears as a sudden wilting of the leaves on one twig or branch on one side of the tree or the entire tree, followed by death of the leaves which turn brown and remain on the tree. Should the bark of infested twigs be peeled off, reddish brown to brown streaks will be observed in the wood. Die-back occurs in varying degrees and occasionally an entire tree is killed. More commonly, there is a die-back of many small twigs, then a month or more after the initial wilting and death of leaves, new shoots appear from adventitious buds along the larger branches and the trnnk, and vigorous new growth rapidly replaces lost twigs and branches.

There is no definite means of control. It is a good practice to prune back branches well in advance of the diseased portions. Other susceptible crops such as tomatoes and potatoes should not be interplanted with avocado. Keep the tree well cared for in order that it will be in good condition to make a come back once it has been attacked.

EDWARD A. MANUEL,
Plant Pathologist.

BAY GRAPES (COCCOLOBA UVIFERA) ARE RIPE

Awaiting harvest along the coastal regions of Bermuda, is the Bay Grape or Sea Grape as it is known in the Caribbean. December is the month when this berry-like fruit with a rather large stone is maturing in abundance all along the sea shore and in some inland places as well. In addition to the attractive appearance of the pendulous bunches of ripe grapes the fruit has a most delightful flavour and aroma.

The botanical name, Coccoloba, comes from the Greek, meaning lobed berry, referring to the ends of the pear-shaped fruit. Considerable variation in size, shape, colour, texture and flavour of the fruits has been noted in Bermuda. This might be attributed in part, to the many varied locations and conditions under which the trees have established themselves. Some trees are growing on the sandy beaches, others in rich garden loam, and yet others appear to be growing out of limestone rock.

The tree itself, reaches twenty feet or more, with many flexious branches. The large glossy leathery leaves are especially beautiful in both the green and dried state. Leaves are often five inches long by seven inches wide. They are broadly heart-shaped, shiney and the midrib is red at the base. During the Spring there is an abundance of minute white flowers emitting a pleasing fragrance.

Recipes for making Bay-Grape jelly are well known to Bermudians and are sometimes found in cook books. In view of the fact there are so many Bay Grape trees in Bermuda more use should be made of the fruit which is now available in abundance.

Even the wood of the Bay Grape tree is useful as it is used for cabinet-making. The fruit and foliage make excellent interior decorations and during

this Christmas season they are most attractive when spray painted to harmonize with the other decorations.

It is a fast growing, hardy tree with multiple uses. It is recommended that more thought be given to the uses of the Bay Grape tree and its products.

J. HUBERT JONES,
Horticulturist.

NOTES FROM TULO VALLEY

For this month I have chosen a charming ornamental shrub, Malpighia Coccigera, bearing the common name of "Singapore Holly", belonging to the family Malphighiaceae.

This plant is by no means new to the Sales Centre, but it is surprising how unfamiliar it is to the public.

It is a small evergreen shrub, attaining a height of approximately three feet with leaves resembling those of the true holly (Ilex). The flowers are pale pink, followed by a small red berry. The writer has observed that they prefer partly shady situations, and I would class them as semi-hardy plants requiring slight protection. They look particularly attractive in the corner of a building, and being small would also look nice in front of a shrub border. At Christmas, it gives quite a pleasing effect to place two of the leaves on guests side plates.

How do I plant it? Leave it in the tin? These are probably the two questions asked most frequently by customers after they have obtained a plant. The correct method is to fill the can with water, tap the sides a few times, place left hand over the top, with stem of the plant between first and third finger, reverse the tin, and with a few downward shakes the plant will usually slide out of the tin. When this has happened simply insert the plant into the hole. Soil should be pressed firmly over the roots, more soil applied and pressed firmly again. This eliminates air pockets in the soil. Finally, give the plant a watering.

I am frequently asked, who are the young lads working at Tulo Valley. These lads are undergoing the four-year apprenticeship course, previously publicised in the press. At present there are six boys undergoing this course, and at Tulo Valley we have three boys for a period of four months, working within various phases of nursery work. These lads are extremely interested in their work, as many members of the public will no doubt have observed.

Finally, I have a request to make to parents. April 12th, 13th and 14th, 1962, are the dates set for the next annual Agricultural Exhibition, and we really would like to see more exhibits entered by children. Now is the time to arouse their interest. Very shortly, we will be sending circulars to all of the schools, explaining the various awards given to children, age groups, andwh at can be exhibited, etc., etc.

W. KUHN,
Agricultural Officer.

GARDEN CALENDAR FOR DECEMBER

Flower Garden

Spring flowering annuals sown during the past two months should, by now, be well-advanced. Any check in growth will affect flowering ability later. A very light dressing of fertilizer, such as 5-10-5 banded and worked in between the rows will provide a welcome stimulant, particularly on poorer soils. Weed growth should be kept to a minimum and water must be applied, especially when drying winds prevail.

As soon as the seedlings are large enough to handle without bruising of stem tissue, they may be planted out in their flowering quarters. Seeds sown in October and early November will be ready under normal conditions from the middle of this month onwards.

Preparation of beds intended for annual display should be completed as soon as possible. This will allow settlement of the soil before planting. Most annuals are heavy feeders and require ample moisture at the roots as growth progresses. For this reason, try to obtain as much organic and moisture retentive material as possible. Cover the beds liberally with this and then dig in. Peat moss, well-rotted compost, sea-weed and farmyard manure are good organics for this purpose.

The only initial care needed after planting out, will be to maintain a happy medium in water supply, elimination of weed growth and control of pests and diseases.

As growth proceeds, staking and securing of such annuals as snapdragons, carnation, hollyhock and tobacco plant must become a regular habit.

Annuals such as Alyssum and Candytuft may be sown directly in their flowering quarters now.

Gladiolus planted out at intervals of two to three weeks from now until early March, will provide a succession of bloom for the house and garden display until early June. Successional plantings of this nature, will also ensure that ample **quality** spikes are available for 12th, 13th and 14th April, 1962. Why this particular date? The Agricultural Exhibition takes place then.

Easter lilies will by now be thrusting their heads through the soil. Weed growth must be kept in check all the time. If it is allowed to get out of hand, then the quality of the lilies will be spoilt, and the weeding itself will be a more laborious task.

Woody Plants

Planting of trees and shrubs may be continued through this month. In exposed situations, however, protection must be afforded to the less hardy subjects. If this cannot be provided then planting is best put off until next March.

Check on staking and securing of young sapling growth, ensuring that sufficient protection against wind has been provided. Earlier ties may need slackening or moving, where the girth of the plant has increased since. This will avoid "girdling" of the wood.

Certain subjects, such as Hisbiscus and Cassia make heavy top growth, particularly in good soil. Frequently this growth is top heavy in relation to

the root system. Winter winds then work the plant loose in the soil and frequently losses occur. Because of this, it is a good idea to reduce top growth by as much as one-third of the total wood, thus reducing top weight. Staking and securing close to the base of the plant on two sides with short stakes, will assist in holding the plant rigid. The action of cutting back will send the sap back, causing highly desirable and more bushy growth in the early Spring.

DONALD J. MOORE,
Superintendent,
Botanical Garden.

WEATHER RECORDING STATION AT BOTANICAL GARDEN

Summary of Climatological date obtained at the Botanical Garden during November, 1961

Mean Maximum temperature 74.2
Mean minimum temperature 64.9
Mean monthly temperature 69.5
Absolute maximum 81.2 on November 2nd
Absolute minimum 57. 7 on November 30th
Rainfall 6.44 inches
No. of rain days 21

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